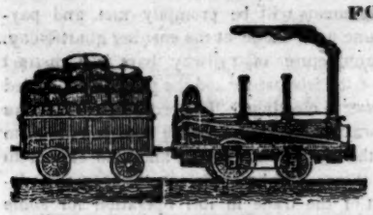
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY AND MINES.



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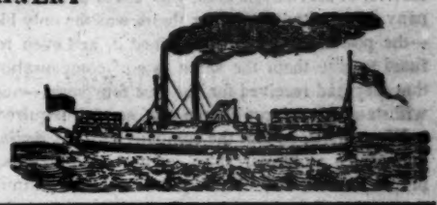

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Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, November 13, 1847.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

Railway Accidents.

The increase of fatal accidents on railroads demands the attention of all who can contribute in any degree to their prevention. There has been, during the past few weeks, a succession of accidents on our railroads, attended with a frightful loss of life, unparalleled in our railway history; and we must come to the conclusion that there is a sort of fatality attending the operations on our railroads this season, or that there has been a sad lack of attention somewhere.

Without going beyond the month of October, we have the fall of a bridge on the road between Fitchburgh and Keene, with the loss of five or six lives—then another on the Reading road, where nearly as many more were killed—and now, within the past week, the sad accident on the Boston and Worcester road, where seven were killed outright, and others injured—and, as we understand, several persons were killed on the Western road, at or near Pittsfield, one day this week. By these four accidents occurring within a month, *nearly twenty* lives have been lost—and probably half that number of families have been deprived of their main support. This is a sad state of things to reflect upon, especially if a want of proper care has in any way contributed to it; and therefore we feel constrained to refer to it, and to call upon the proper persons to investigate the matter, and to place the responsibility on the right shoulders—and also to endeavor to devise a remedy, if possible, for the evil.

Schuylkill Coal Trade.

PHILADELPHIA AND READING RAILROAD.—Amount of coal transported during the week ending Thursday, November 4, 1847.

	Tons. cwt.
From Port Carbon	9,364 04
" Pottsville	4,9-2 18
" Schuylkill Haven	12,530 11
" Port Clinton	3,493 19
Total for week	30,375 12
Previously this year	1,141,187 19
Total	1,171 563 11

HENRY M. WALKER,
Supt Coal Tr. P. & R. R. R. Co.

SCHUYLKILL NAVIGATION.—Week ending November 4, 1847.

	Tons. cwt.
Pottsville and Port Carbon	6,452 04
Schuylkill Haven	2,071 09
Port Clinton	00 00
This week	8,523 13
Previously	194,759 07
Total	203,283 00

Air Springs and Railway Buffers.

The Mining Journal of 27th October says: "Our attention has been directed to a new and valuable improvement connected with railroad travelling, exhibited at the Fair at Castle Garden. It appears to be a very simple and perfect machine, holding a given quantity of compressed air, which can be increased or lessened in a moment to suit any required pressure—easily attached to old or new trucks, and requiring no attention or expense to keep them in order. We see no reason why they should not entirely supersede every other kind of spring, as the saving of wear and tear equally to passengers, cars and roads, must be very important, and if attached to locomotives, will enable them to attain greater speed with equal safety. We have recently been on the Somerville road, in a new and elegant car which has these springs under it, and the motion is very pleasing. Gentlemen who have rode in cars, in N. England, under which they are placed, assure us that the difference between them and the ordinary springs is very perceptible upon passing from one car to the other in the same train, and that they find no difficulty in reading books or papers with ease and comfort while riding upon the air spring. Without doubt, they may be adapted to omnibusses, pleasure carriages, etc., and we hope soon to see them in Broadway.

"The philosophical principle of the *permanent elasticity of atmospheric air*, is now attracting great attention both in this country and Europe, and if other applications of this principle are as successful as in the present instance, great and important results will follow.

"They are manufactured by the proprietors of the patent, New Haven, Connecticut. Sherman & Morris, 76 Broad street, New York, agents."

Postoffice Department and the Railroads.

There appears to be a growing difficulty between the postoffice department and the railroad interest; and the people—the business community—are to be the sufferers. Formerly it was customary to pay extra prices for extra speed—as well as increased prices for increased service. Increased speed has always been deemed an important matter with business men who pay for the transportation of the mails.

The prices paid for transporting the mails in post coaches, and wagons, on the main lines, at *one-quarter* or *one-third* of the speed of railroads, was, if we recollect, quite as much, in proportion to the quantity carried, as it is now on railroads. If *speed* is worth anything to the business community, that community, through its agent having charge of that department, should pay a fair compensation to those who, by a large outlay of capital, are enabled to attain the speed so highly valued.

We are very far from wishing to give to the railroad companies the control of the postoffice department, as we also are of allowing the postmaster general to require services of the companies without a fair compensation.

We are led to refer to this subject, at this time, from the notices we have recently seen in the newspapers in relation to the controversy between the postmaster general and the Richmond, Fredericksburg and Potomac railroad company. It was stated in the first notice of it which met our eye, that the

company demanded an increase on former prices—of $3,750—which the department declined to give, and were of course compelled to resort to some other mode of carrying the mail from Washington to Richmond, 131 miles, and therefore proposals are requested, and the time allowed in the schedule is 23 hours, instead of 8½ hours as now allowed. It is true, we understand, that in reply to the regular advertisement for proposals on this route, an advance, something in proportion to the increase of the weight carried, or service rendered, was asked by the company, but—notwithstanding theirs was the only bid—the postmaster general declined it, and even refused to give them the same rate of compensation that they had received for the past four years—notwithstanding a large increase of service required.

We understand that the company did not *decline* the service at former rates, even though they had proposed for higher. Yet they did refuse to continue the service after the 10th of December next, at the rate offered by the department, which was $3,217 *less* than they had agreed on in 1842 and 1843, and had received for slower schedules and inferior service.

The question is now to be decided whether the company shall do more work for less compensation, or the mail service shall be retarded 16 to 24 hours between Washington and Richmond.

It is but fair and just to those who risk their capital, that the traveller and the mail may be transported at higher velocities, should receive returns in some proportion to the advantage his investment gives to the community, and we therefore suggest that the compensation for carrying the mail shall be in proportion to the *quantity* and *speed*; and recommend that a law be passed, by which these controversies may be avoided—as otherwise the rapid extension of railroads will give rise to frequent controversies.

The following statement of the railroad company shows their position:

OFFICE RICHMOND, FREDERICKSBURG & P. R. R., Richmond, November 3d, 1847.

To the Editors of the Whig:

GENTLEMEN:—As you have published from the Baltimore Sun an extremely partial view of the existing difficulty between this company and the post-office department, I cannot defer placing in your possession an extract from the minutes of our board of directors in relation to the subject. Though not so copious as the correspondence, (which will soon be placed before the public) it is plain enough, I think, to satisfy any unprejudiced mind, that the demands of the department for increased service—the necessary consequence of the rapid expansion and growth of our country—will sustain the companies in the position taken by them, which is, to submit to no reduction in the compensation allowed them for several years past, and which they are assured by eminent counsel, it is fully in the power of the department, under the law, to continue to them.

Very respectfully,

ED. ROBINSON, *President.*

At a meeting of the board of directors of the Richmond, Fredericksburg and Potomac railroad and Washington and Fredericksburg steamboat companies, held at the depot in Richmond, October 26th, 1847:

The president stated that the postmaster general had awarded to the two companies the sum of $7,258 75 for carrying the mail between Richmond and Washington for the quarter ending on the 1st inst., instead of the sum hitherto paid by the department, being a reduction at the rate of $3,217 per annum on the compensation agreed on in 1842 and 1843 for slower schedules and inferior service, and when the mails were much lighter than at present; and that the postmaster general had requested, if this compensation was not satisfactory, that the board of directors would give at least twenty days notice to that effect, when other means of transportation would be provided by the department; whereupon,

Resolved, unanimously, That the president respectfully notify the postmaster general, that, while the board of directors deem the compensation offered by the department an inadequate one for the services rendered by the companies at other seasons of the year, it is, in the opinion of the board, entirely so for the winter months, when the extra expenses and hazard incurred by the steamboat company *alone*, in the transportation of the mail, beyond those of other steamboat lines, are greater than its whole mail pay at that season would cover; and that the board of directors must reluctantly decline the further transportation of the mail on the terms offered by him after the 10th day of December next, when the winter schedule commences.

An extract from the minutes:

C. W. MACMURDO, *Secretary.*

Iron Trade.

The report of 8th October, quote rails at £9 average—"Yet," says a correspondent of the Mining Journal, "owing to the state of the money market, the transactions in metals have been very limited of late, but the prices have been generally well maintained; the only articles on which we have to decline, are Scotch Pig-Iron and Spelter—all other prices remaining at last week's quotations."

Glasgow Pig-Iron Trade.—Our pig-iron market is feeling the effect of the late commercial disasters. Prices are receding every day, and may now be quoted at 57s. 6d. for No. 3; 59s. 6d for mixed Nos.; and 61s. for No. 1—cash; a limited business doing.

MONTHLY REPORT.

(*From a Correspondent.*)

Iron.—Notwithstanding the state of the money market, and the many disasters which have recently taken place, both here and in the provinces, the iron trade in Wales and Staffordshire has maintained its firmness. The Welsh ironmasters are actively employed in carrying out their contracts for bars and rails; and such is the demand for the former, that it is difficult to get any of the makers to execute orders unless at extreme prices. The Staffordshire trade is also brisk, with no disposition to give way in price. Scotch pig has been much depressed during last month, owing chiefly to large parcels in the hands of speculators being forced on the market, and a decline of 3s. to 4s. per ton has taken place within the last two or three weeks. In Swedish iron and steel there is not much doing; a few sales of the former have been made, principally for the American market.

The Birmingham Advertiser holds the following language in relation to the iron trade, viz:

"The preliminary meeting of the ironmasters of this district took place on Tuesday, at Wolverhampton; and we are happy to state, that the result was satisfactory. The prices of manufactured iron (bars, hoops, and sheets), remain the same. The home demand is very good, and this, considering the time of the year, and the fact that the shipping season will be soon drawing to a close, fully warrants the conclusion arrived at by the trade. Pig-iron maintains its price—the principal makers are already full of orders for the next quarter's delivery; indeed, the quantity made in South Staffordshire is not equal to the demand. So much is being used for casting, for railway, and other purposes, and so large a quantity is converted into manufactured iron, that were it not for the pig-iron imported from other districts, the scarcity would, we have no doubt, be material. There cannot be any considerable reduction, either in the price of pigs or manufactured iron, so long as the value of labor is so high, the raw material so dear, and the demand so great. The large failures in the City, and elsewhere, have not, as yet, affected the iron trade; it is true that several iron merchants have failed, but the business done by them in this district was very limited. Notwithstanding the pressure upon the money market, we have every reason to believe that the engagements will be promptly met, and payments punctually made at the ensuing quarter-day. The manufacture of railway bars is a distinct branch of the iron trade, and the price is not settled at the general meetings. The requirements of *bona fide* railway companies—of those who can afford to pay for the rails contracted for, and who cannot do without them—will be sufficient to keep this department of the trade in full operation for some time to come; indeed we speak advisedly, when we declare that we have not heard of one single order for rails being postponed through 'railway embarrassment.' That the iron trade should pass through a great commercial panic, meet the heavy pressure in the money market, and not be ultimately affected by it in some degree, is almost too much to be expected; but, we believe, when the panic is over, and the pressure is removed, it will be found that the iron trade has been comparatively unaffected, or, at all events, that it has enjoyed an extraordinary exemption."

The report of the 15th October shows a depression in the price of rails, as compared with last week. The quotations being £8.10 a £9, average.

Welsh iron may now be generally bought for £8 12s. 6d. in Wales, the demand continuing fair for this description, and also for Staffordshire. Scotch pig is dull of sale.

Glasgow Pig-iron Trade, Oct. 14.—Our pig-iron market has rather improved this week; there is, however, very little business doing. Mixed Nos. may be quoted at 60s. to 61s.—cash.

The Iron Trade.—The usual quarterly meeting of the ironmasters of South Staffordshire and Shropshire, commenced at Walsall, on Monday: the second, and more important one, was held at Wolverhampton, on Wednesday. The attendance of those interested in the trade was numerous, but any details are rendered unnecessary, as the terms agreed to at the preliminary meeting last week, were fully confirmed.

The ironmasters held their usual quarterly meeting at the Town-Hall, Birmingham, on Thursday last—the attendance at which was unusually numerous; and the reports of all engaged in the trade confirmed that which we have already announced, relative to its healthy condition. There are still large orders in the houses both for home and foreign requirements, and, as a consequence, a determination has been arrived at to stand by existing prices. The figures are—for Staffordshire bars, £10, for pigs £4 15s. to £5 5s. per ton, according to the quality. We have reason to believe, too, that there has been less of underselling by the smaller makers during the quarter just ended, than has been known for several years. The settlement of accounts has passed off satisfactorily, the difficulties caused in other parts of the country, consequent on the very serious monetary panic, not having yet, we are assured, affected, to any extent, the trading interests of this district. Reports, which have been current for a day or two respecting the unsatisfactory condition of the affairs of a company interested in the iron trade and working out a patent, have to-day re-

ceived confirmation. We understand that a meeting of the proprietary will be convened forthwith: and that a proposition will be submitted whether it is expedient to make another call, or at once to wind up the concern. It is most probable, that the latter alternative will be resolved upon, but in no case will the creditors suffer to the extent of a fraction. On a rough calculation, it is not improbable that at the present time the company is employing 2000 pairs of hands. The continued satisfactory condition of the coal trade is the only other fact we have to report; upon the whole, the aspect of the commercial concerns of this district affords, when contrasted with those of other parts of the country, matter for much congratulation.—*Birmingham Adv.*

Anthracite Iron.

The anthracite district of South Wales, says the Mining Journal, seems to be rising rapidly into importance in the production of iron. Ten years ago there was only one establishment, of three or four furnaces, in operation at Yniscedwyn, in the Swansea Valley—now there are no fewer than nine concerns, possessing 32 furnaces, of which 23 are actually in blast at this time. The following are their names, with the number of furnaces in and out of blasts:—

Furnaces.		In blast.	Out.
7....	Yniscedwyn—(Mr. Cranes')....	7....	0
11....	Ystalyfera—(Budd & Co.).....	7....	4
2....	Venallt—(Jevans & Wood).....	2....	0
3....	Gwendraeth	2....	1
2....	Onllyn—(Williams).....	2....	0
2....	Abernant—[Neath Abbey Com.)	2....	0
2....	Trinsaran—Norton & Co.)....	1 ..	1
2....	—— (Lewellyn & Sons) unfin'd	0....	2
1....	Banwen.....	0....	1
32		23	9

With a fuel so difficult to deal with as anthracite, the quantity of iron produced by each furnace is not as large as the furnaces in the bituminous districts of Wales and Staffordshire turn out, but the quality is acknowledged to be of a very superior character, as is proved by the large quantities which are sent to the mills and forges in Staffordshire. Taking the average production at 50 tons each furnace per week, the whole make of the 23 furnaces in blast is 1150 tons per week, or 59,800 tons per annum—a quantity by no means insignificant. Besides the furnaces already mentioned, there has lately been erected at Briton Ferry, near Neath, a powerful mill for rolling bars and rails from anthracite iron, and capable of turning out about 400 tons per week.

The Madison and Indianapolis Railway, earned nearly twice as much in September, this year, as it did last year. This road will probably be extended to La Fayette, and thence to connect with the Michigan roads. A road will also be constructed to the Ohio State line, and thence form a connection with the Ohio roads at Springfield, or some other favorable point, thus opening communication with Cincinnati and Lake Erie—and another road will, at an early day, be constructed westward towards Illinois—thus making *Indianapolis* a central point in the Railroad system of the West.

The Detroit Free Press says that arrangements have been made with the Buffalo and Mississippi Road to connect with the Michigan Central Road at the Indiana State line South of Niles. The road will then go through Laporte and Michigan city to Chicago, and thence to Galena. At the Indiana state line the road will be tapped, and thence go to La Fayette, Ia.

The connecting road from Chicago to Galena will soon be commenced. The citizens of Chicago have taken near $200,000 of the stock, and over $100,000 were taken on the route. An agent is now, we understand, in Boston in behalf of the company, soliciting subscriptions to the stock, and he will be very likely to meet with encouragement.

Over 1500 men are, as we are informed, employed on the New York and New Haven Railroad, The whole work is under contract, and the work is progressing with great rapidity.

Three divisions of the St. Lawrence and Atlantic Railroad, of about 50 miles in extent, are in progress in the State of Maine, a part of which is to be completed within a year.

The receipts of the Housatonic Railroad, for the month of September, amounted to $19,173 53. A semi-annual dividend of four per cent. has just been declared. This company deserves success. They have worked hard to construct and *re*-construct their road—and we hope they may realize rich returns.

The receipts on the Little Miami Railroad (in Ohio,) during the month of September, exhibit an increase of $6,434 over the same month last year. In September, 1845, the entire receipts on this road were only $6,607. This company is now engaged in good earnest in rebuilding their road, and they intend to have it one of the very best roads in the country—within two years.

Bridge Building, both Iron and Wood.

It may be recollected by our readers that we sometime since—see No. 23, June 5th—referred to a small treatise on this subject, by Mr. S. Whipple of Utica. We also previously published, in No. 19, for May 8th, a communication from an eminent engineer, highly approving of Mr. Whipple's work and system of Bridge building. At the close of the treatise above referred to was an intimation by the author of his intention soon to publish, "as a sequel" to what he then gave, "a set of working plans for bridges of different lengths and descriptions, both of wood and iron, with details, specifications, and general remarks;" and in accordance with that intimation he has put forth a neat little volume, including what he then published, of 120 pages, with 10 plates illustrating the subject, which ought to be in the hands of every engineer, bridge builder, and road maker in the country.

We may hereafter make extracts from the work, by way of calling the attention of our readers specially to it, but at present conclude this notice with the following remarks of Mr. Whipple upon the disaster of the "Dee Bridge,"—which fell under the passage of a Railway train, a few months since, with a melancholy loss of life,—and with a hearty recommendation of it to those having charge of railways, or engaged in bridge building.

The author says, in relation to "*The Dee Bridge:*"

A considerable degree of excitement has been caused within a few months in England, by the failure of a bridge over the river Dee, near Chester, during the passage of a railroad train, by which accident several lives were lost.

As the facts of the case may afford an instructive lesson upon the subject treated of in the preceding pages, I am inclined to state the most important of them, with a few accompanying remarks, before taking leave of the subject.

The bridge in question, was upon the plan called the "Cast Iron Girder Bridge."

In this plan, each track, or pair of ways, is supported by two cast iron Girders, or beams, with their ends resting on abutments and piers, which, in the case of the Dee Bridge; are 98 feet apart. The form of the Girders is essentially that of the common railway bars, known as the ⊥ or ⌶ rail; the vertical "web" being two and one-eighth inches thick, by about three and one-half feet deep; the lower flange, twenty-four and one-half inches wide by two and a half thick, and the top flange, about seven and a half inches wide, by a little less than two inches thick; the whole cross section containing 160 square inches, and the whole depth being 45 inches.

In addition to this, are wrought iron suspension bars, containing 60 square inches of cross section, running obliquely downward from a connection at the ends, about 3 feet above the upper flange, (there being a rising portion at the ends to which such connection is made,) to the lower flange, at the joints of the cast iron part, 36 feet, or one-third the length of the girder, from the ends; the casting being in three pieces, connected by bolting through flanges, and by strengthening pieces at the points. Between the two joints, the suspension bars run horizontally, just above the lower flange of the girder.

One effect of these suspension bars is, to throw a great amount of thrust, or crushing force upon the top flange, in so much that the engineers who examined and testified upon the subject, upon the inquest held in relation to the lives lost by accident, *generally* concurred in the opinion that they rather weakened than strengthened the girder. Adopting that conclusion upon this point, which appears to be corroborated by experiment, let us examine whether the failure of the bridge, in connection with the other facts of the case, should inspire distrust, or confidence in the use of iron bridges for railroads.

By calculation according to formulæ deduced from experiment, a pair of girders is estimated to be able to sustain at the extreme or breaking point, 148 tons in the centre, or 296 tons distributed uniformly over their length. In this estimate, the testifying engineers concur with little or no variation. Now, the weight of a pair of girders, is about 70 tons, or, with other parts of the structure, about 90 tons. Mr. H. Robertson, (engineer,) estimates the effects of the engine and tender as "equivalent to 32 tons in the centre," which is equal to 64 tons distributed. Add to these, "25 tons of ballast," which was put on to the bridge just before the accident, and we see there was 90, 64, 25—179 tons upon the bridge, which was more than six-tenths of the actual breaking weight, supposing it all at rest, and acting equally on the two girders. But the action of the engine, and the vibration of the girders, (which must be considerable for a length between supports equal to 26 times the depth,) must be very important, though not capable of exact estimation. It is therefore not improbable that the girder was taxed to more than two-thirds of its extreme capacity under favorable circumstances.

Now, from one-quarter to one-third of the actual breaking strain, is all that any practi-

cal engineer estimates it safe to rely on cast iron to bear; whereas, in case of the Dee bridge, we see it exposed to a load of more than six-tenths of the ordinary capacity, besides the effects of motion, vibration, etc. It certainly cannot be surprising, then, that a failure took place. And so far from this failure amounting to evidence, or even an argument, against the safety of iron bridges, the fact that this is the first and only failure that has yet taken place, among "upwards of 100 similar bridges, either in use or in the course of construction, in England," some of which are doubtlessly, often exposed to strains exceeding half their absolute capacity to bear, seems calculated to inspire the fullest confidence, that, properly proportioned, so as never to be exposed to a stress of more than one-fifth or one-quarter of the average strength of the metal, iron bridges may be relied on with the utmost confidence.

We see that the Dee bridge contained some 70 tons or more of iron in the girders, for a single track of 98 feet stretch,* besides 20 tons in the other work, which is nearly one-third of the actual breaking weight of the girders; and as much or more than they ever should or *could* with safety be exposed to.

The English engineers seem to me to have erred, in deducting the weight of the structure from the *breaking weight*, instead of the *safe load* of the girders, to obtain the effective strength.

Now, that the most eminent engineers, of a most scientific nation, should be obliged to avail themselves of the extensive employment of such a plan of structure as that, is evidence enough of a prevalent want of more light upon the subject of *Bridges*. And whether my labors in the field will have aided essentially towards supplying the deficiency, it is unnecessary for me to give a more direct expression of opinion, than will be afforded by respectfully offering these humble essays to the attention of the engineering profession.

* I estimate the amount of iron for a like stretch upon my plans, at about 15 tons.

Railway Carriages or Cars.

We perceive by the following description, given by the Illustrated London News, that prejudice, or custom is at length yielding to experience, and that the 8-wheel car is now likely to be introduced upon the English railways. We have been not a little surprised that the old—or early—style of car, upon four or six wheels, divided into three or four apartments, to contain six or eight passengers each, maintained its place on the English railways so long after the superior convenience and *safety* of the 8-wheel car was discovered. The Messrs. Adams have however opened the door for the introduction of valuable improvements, which will be adopted on most of the important lines.

We give a sketch of one of the improved railway carriages, just constructed by Messrs. Adams, of Fair Field Works, Bow, for the North Woolwich branch of the Eastern Counties' railway, and we consider the directors to have shown judgment in their departure from the common standard, to suit an increasing traffic, without adding to the length of their trains. These carriages are 40 feet in length, and 9 feet in width; the extra width being gained by building the carriage frames to the width of the ordinary step boards. The directors have thus succeeded in accomplishing more on the narrow gauge than has yet been accomplished on the broad gauge, where the carriages are only 8 feet 6 inches in width, by 28 feet in length. The extreme axles are 30 feet apart, and, being on eight wheels, these carriages are obviously safer than those on six wheels or on four.—Notwithstanding their length, they will pass a curve of 200 feet radius by means of the flexibility and arrangement of the springs, which permit the wheels to traverse laterally. The buffer heads are also made to radiate with the springs or curves, so that they press firmly under all circumstances. The carriages are fitted up in four compartments; one first class, with couches all around, and a table in the centre; the other three, second class. They will carry about 110 passengers.

Among the advantages which these improved carriages present over ordinary carriages, are—

1. Greater steadiness at high velocities, the great length of the body maintaining its equilibrium independently of the wheels.

2. Diminution of friction, by the easy spring permitting free rolling movement of the wheels, without pressing the flanges against the rails, whether on curves or on nominally straight lines. Also by diminution of the gross weight of the carriages, as compared with the passengers carried.

3. The proportional diminution of requisite engine power, equal to fully one-third as compared with the traction of six wheeled carriages.

4. Reduction of the length of trains, by increasing the breadth of the carriages.

5. Greater safety; since one wheel breaking out of eight involves far less risk than one out of four or six. The almost impossibility of getting off the rails, on account of the perfect action of the springs, which will keep the wheels turned to the plane and curves of the rails, whether regular or irregular, instead of confining them to the plane of the carriage.

The allowance of a passage way through the whole of the interior of the train for the guards, would be important, in case of the illness of a passenger, or a fire, or other accident. In second and third class carriages, the arrangements for passing through would be as in the pit of a theatre—a passenger could move aside so as not to lose space. In a first class carriage, a passenger way, 1 foot 6 inches wide, would be left, and passengers' cabins arranged on each side, facilitating the use of small private apartments, where required for long journeys. The communication through the whole train would permit the collection of tickets during the journey. At present, a journey of 50 miles is frequently performed in little more than an hour, with some additional risk from high speed; and, at the end of the journey, a quarter of an hour is wasted in taking tickets.

Railway Statistics of England for 1846.

We find the following extract from the Statistical Journal for September, in the Railway Record. It shows that the total receipts of these 23 roads, for six months, was over $20,000,000.

"In the Statistical Journal for september, is a table of the revenue receipts, increase of traffic, dividends, etc., on railways, for the half-year ending December, 1846, compiled by J. Wishaw, Esq., who is, no doubt, well known to the majority of our readers, as a frequent speaker at railway meetings. From this document we present to our readers the following abstract:"

Bristol and Exeter.—On this line, (76 miles included in the Great Western) the receipts were £49,683 2s. 3d., being an increase on the corresponding half-year of 1845, of £1,144 10s. 3d. The dividend declared was £1 13s. 9d., which left a balance in hand of £2,055 15s. 5d. The line is leased to the Great Western at a fixed rent of £71,957 per annum, and a toll of ¼d. per mile for every passenger travelling upon it, and the same for every ton of merchandize carried.

Dublin and Drogheda, (35 miles)—The receipts, £21,408 17s. 3d., being an increase on the corresponding period of 1845, of £644 15s. 3d. Dividend declared at £3 14s. per cet. It appears there is a falling off of 10,000 in the third class passengers.

Eastern Counties' (161 miles)—The total receipts were £250,056 8s. 9d., being an increase over the corresponding period of 1845 of £69,956 12s. 6d. The dividend declared was 10s. per share, leaving a balance of about £329 in hand. During the last six months, the increased length of road maintained was 59 miles.

Edinburgh and Glasgow (46 miles)—The receipts were £111,087 16s. 6d., being an increase of £26,570 4s. 10d. over the corresponding period of 1845. The dividend declared was 8 per cent., and the balance after its payment, £12,983 2s. 11d.

Glasgow, Paisley & Greenock (22½ miles.)—The receipts were £28,982 18s. 3d., being an increase over the corresponding period of 1845 of £2,479. The dividend declared was 6s. per share on £25 shares, and the balance left in hand £716 7s. 3d.

Glasgow, Paisley, Kilmarnock and Ayr, (51 miles)—The total receipts were £60,645 6s. 6d., being an increase of £7,000 on the corresponding period of 1845. The dividend declared was 7 per cent, and a balance in hand, after paying the dividend £2,095 16s. 6d.

Great Western (240¾ miles.)—The total receipts were £513,846 15s. 10d., the dividend 8 per cent., and the balance left in hand £7,853 14s. 10d. This includes the receipts on the Bristol and Exeter line. There was an increase in the traffic of the half year of 92,598 passengers, and 23,976 tons of goods, but no apparent increase in the receipts.

London and Blackwall (4 miles.)—The total receipts were £43,801 6s. 9d., showing an increase over the corresponding half year of 1845 of £3,548 4s. 3d. Dividend declared 4s. per share.

London, Brighton and South Coast, (112 miles.)—The total receipts were £226,711 7s. 11d., the increase over the corresponding period of 1845 £48 981 6s. 5d., and dividend declared 7 per cent. In the course of six months the extent of this line was nearly doubled.

London and North Western, (362 miles.)—the total receipts were £1,110,795 0s. 10d. the increase over the corresponding period of 1845 £61,566, the dividend declared 10 per cent., and the balance left in hand £105,722.

London and South Western, (99 miles.)—Total receipts, £196,323 5s. 2d., dividend declared, £2 2s. 6d.; and balance remaining in hand, £200. The receipts somewhat diminished in consequence of the reduction of passenger fairs.

Manchester and Leeds (117¼ miles.)—The total receipts were £187,524, the increase over the corresponding period of 1845 £3388, the dividend declared 7 per cent., and the balance remaining in hand after paying the dividend £41,124. The opening of the Ashton branch during the six months tending to increase the receipts, and of the Sheffield and Manchester, and Leeds and Bradford lines to diminish them. The receipts were also affected by a reduction in the passenger fares.

Manchester, Sheffield and Lincolnshire, (49¼ miles.)—The receipts on this line were £55,277 15s. 5d.; the increase in the corresponding period of 1845 £19,875 10s. 3d., and the dividend declared 5 per cent.

Maryport and Carlisle (28 miles.)—The total receipts were £15,151 9s. 10d., being an increase on the corresponding half year of 1845 of $4,868. No dividend declared.

Midland (328½ miles.)—The total receipts were £401,790 19s. 4d.; the increase over the corresponding period of 1845 £55,498 2s, 10d.; the dividend declared, 7 per cent., and the balance left in hand £13,040 8s. 1d.

Newcastle and Carlisle (61 miles.)—The total receipts were £57,156 5s. 1d.; the increase over the corresponding period of 1845 £9,723 6s. 2d., and the dividend declared 5½ per cent.

Norfolk (58½ miles.)—The total receipts were £45,689 1s. 2l.; the increase over the corresponding period of 1845, £7,158 17s. 6d.; and the dividend declared, 3 1-2 per ct. on consolidated stock.

North British (72 1 2 miles.)—The receipts for seven months were £53,281 15s. 5d., the dividend declared 5 per cent., and the balance left in hand, £84 5s. 3d.

South Devon (15 miles.)—The receipts, from the opening of the line to Teignmouth, on the 29th of May, 1846, were £15,620 5s. 7d. No dividend declared.

South Eastern (140 1 4 miles.)—The receipts were £236,404 0s. 5d., the increase on the corresponding period of 1845, £51,860 8s. 9d., the dividend declared 21s. per share on the paid up shares, and the balance remaining in hand, £7,454 7s. 3d.

Ulster (25 miles.)—The receipts were 18, 987 2s. 5d., and the dividend declared £1 per share, leaving a balance in hand of £1,130 7s. 8d.

York and Newcastle (149¼ miles.)—The receipts were £158,181 2s. 9d., including the receipts on the Richmond branch, opened in September; the increase over the corresponding period of 1845 £21,051 14s. 6d, and the dividend declared 9 per cent., leaving a balance in hand of 504*l.* 19s. 4d.

York and North Midland (162 1-2 miles.)—The total receipts were 186,752*l.* 0s. 10d., and the dividend declared 10 per cent., leaving a balance in hand of 17,213*l.* 17s. 9d.

The total length of the above lines is 2,-340¼ miles; and the receipts during the last half of the year 1846, were 4,036,145*l.* 4s 3d.

Railway Across the Isthmus of Panama.

For many years the grand projects of either cutting a navigable ship canal, or constructing a railway across the Isthmus of Panama, to join the Pacific with the Atlantic, has been the study of several eminent engineers—English, French, and Italian. Plans and estimates have been made out of the expenses and practicability of so important an undertaking, but hitherto so much opposition had been experienced by each party from the Government and authorities in carrying out the project, that, for a time, it has been in a state of abeyance. Several French adventurers have been foremost in this speculation; and, after very unsuccessful communication with the Government, they have at last succeeded in obtaining a concession to lay down a railway across the Isthmus, under certain conditions—that at the expiration of the term of the lease it then becomes the property of the State, which, however, can grant a new lease to the company. From the report of the engineer, it promises to be a very lucrative speculation, and can be carried out with but little obstacles, as the country is of a nature that the cuttings and embankments, tunnels, etc., will be without much difficulty, and a comparatively low expense, compared with European lines. The company will be partly composed of English, French, and Mexicans—the Government granting the land through which the line will run. After mature deliberation, the cutting of a canal has for the present been abandoned, although its practicability is beyond doubt, and may, some years hence, be accomplished. The establishment of a railway will afford not only a rapid transit for passengers and goods, but to the mining interest of Chili it will be most important, as also for the city of Mexico. By the facilities afforded by the South, Pacific Steam Navigation from Valparaiso, calling at all the ports between that Liverpool of South America, and Lima, etc., the miners will be able to overcome the great drawback, which has hitherto been so severely felt—the want of a quick means of transporting the metal and ore. Arrangements are making by the Royal West India Mail Steam-Packet Company to call at Chagres and Vera Cruz twice a month, on and after November next, instead of once, as at present—an advantage that, no doubt, will be highly appreciated by all those embarked in mining adventures in Mexico, Chili, Peru, etc.

It is possible that the *Americans* may also be somewhat interested in the management of the railway across the Isthmus of Panama when it shall be built, although they appear to have been forgotten by the writer of the above paragraph, which we take from the London Mining Journal of September 11th.

Railway Train Signals.

There appears to be much interest manifested in England at this time in relation to the introduction of improvements in the mode of communication between the guard, or look-out men upon the train, and the engine driver. There seems to have been much difficulty upon this point; and that accidents have occurred in consequence. Various plans have of late been suggested—some of which we give to our readers that they may have the benefit of them, if superior to our simple and efficient mode of a cord running over the tops of the cars to the engine, where it is connected with a bell—thus giving the conductor an easy means of stopping the engine, if necessary. One of the several plans suggested is described as follows by the Morning Herald.

"We yesterday," says the writer in the Herald, "availed ourselves of an opportunity of inspecting, at the carriage manufactory of the Messrs. Adams, near Stratford, a break van, in which provision is made for enabling the guards of a train to communicate with each other, and with the driver of the engine. The mode proposed for effecting this is very simple. One of the ends of the break van has an elevated compartment, with glass windows before and behind, through which, when the van is placed next the tender, the guard can command a view of the whole train, and also of the driver. It is proposed to have one of these vans next the tender and one in the rear of the train, and that by means of a strong length of catgut running along the sides of the carriages, a communication shall be kept up between the two guards. The way in which this is to be performed is, we understood, as follows: The under guard in the rear break van is to have in his charge a roller on which the catgut will be wound, and it will be the duty of the head guard, immediately the train is ready to start, to walk from the rear of the train, and, in his way to his own break van next the tender, insert, by a very simple contrivance, and without stopping, the catgut in one or more rings fixed to the sides of the top of each carriage. The catgut will then be attached to a strong spring in connection with an alarum in a break wagon next the tender. The roller on which the catgut is to be wound in the rear break van will be connected with a weak spring, having sufficient play to prevent the contracting and expanding motion of the buffers acting upon the strong spring in the front break van, and letting loose the alarum. If the guard in the rear desire to communicate in the day time with the one in the front, the alarum is sounded and the required signal given by flag. If by night, the signal is given by lamp. In this way the guard in the rear will be able to communicate almost instanteously with the guard in the front of the train, and the latter, by a communication with the driver through the mode we suggested yesterday, viz: a chain or wire in connection

with a steam whistle on the engine, can exhibit a red flag or red light, and stop the train in the shortest time practicable. If it be desirable to place the passengers in communication with the head guard in the front brake van, the catgut might be placed within their reach. The head guard would readily distinguish the passengers' signal from that of the rear guard by the absence of a flag or lamp signal in the rear break van. We are quite aware that the objection to this apparently simple mode of signalling from all parts of the train to the head guard will be that the catgut must be withdrawn from and re inserted in the rings whenever a carriage is added to or taken from a train. This objection might be surmounted by having the catgut in lengths, with spring clasps of a form that would run easily through the rings.—The merit of this contrivance, which seems to possess simplicity and effectiveness, belongs to Mr. Grimshaw, the superintendent of the Bishopsgate station of the Eastern Counties."

Copper Mining and Copper Ore.

We have heard much of the "copper region," and of "copper stocks," of Lake Superior, and have seen some remarkable specimens of the metal brought from there as samples, yet we have seen nothing equal to the following statement, which we find in the last number of the American Mining Journal, as an indication of the success attending the mining operations of those engaged there. If the statement herein made be true, that these 467 tons of ore will produce as much metal as 3600 tons of the *dressed* ore of the Cornish mines, or as 7200 tons of that ore as raised from those mines, and the supply of this ore is as inexhaustible as it is represented, then we may look for a great reduction in its cost, and immense increase in its use in all departments of business! It must not be forgotten that we are not alone in our discoveries of copper mines—equally valuable mines have been discovered in *Australia*, and large investments of English capital have been made in them—of course there is to be competition in the business, and consequently increased supply and reduced prices and profits.

The writer says:—"The prospects of the Pittsburgh and Boston Copper Harbor company, through their famous 'Cliff mine,' are in the highest degree cheering. This mine was discovered in the autumn of 1845, at a season so unfavorable, as not to afford time sufficient for the usual preparatory mining arrangements of the succeeding winter; and still, in less than two years from the period of its discovery, the produce has not only equalled the whole cost of working it, but will undoubtedly yield a profit to the proprietors! The history of mining hardly affords a parallel to this mine; for not only two, but even five or more years are generally requisite, with heavy outlays, before mines in general are enabled to cover expenses, and give dividends. The most astonishing results are even now produced, through the abundance and richness of its native metals; and the wonders of Aladdin seem to be realized thro' the extraordinary developments that are making in it.

From reliable data, it appears, that the product of this mine for the present season, up to the 25th of September, delivered at the lake shore, equals 467 tons of masses and copper rock.

Of this, there have been received at the seaboard, mostly at Boston,	209 tons.
There are on the way to Boston—this side of Buffalo,	178 "
And there were at the lake shore, Sept. 25th,	88 "
Making a total of,	467 "

Much more than half of the shipments consists of masses. In order to show this, it is sufficient to state, that the 209 tons named above, consisted of barrels of copper rock, weighing 361,506 lbs, and the masses weighed 396,266 lbs.; and that these proportions continue in the other 258 tons. The weekly return of the clerk of the company, at the mine, for the week ending Sept. 18th, was—

40 barrels,	14,526	lbs. net.
18 rocks,	17,132	"
Total,	31,658	"

This week's return is smaller than usual, on account of the masses taken out being so large, as to require more time to cut them into suitable pieces for shipment.

The returns for the week ending Sept. 25, gave—

37 barrels,	13,774	lbs. net.
26 rocks,	31,030	"
Total,	44,804	"

The clerk says:—"We would have sent 25 tons this week, but this being a wet day, prevented us from doing so. The mine wears the same appearance as usual. There was a mass of about 20 tons blasted, down in the north end of the lower drift on Friday night, but we cannot tell how long it will take to cut and blast it into smaller pieces.'

It is understood that the drift where this mass was found, was 60 feet below water level; and it, of course, furnishes conclusive evidence of the richness of the mine at that depth—a most important point in the valuation of the mine.

The company have sold the masses and copper rock to smelters, for 16 cts. per lb., for the copper they will produce. From average samples, it has been determined, that the masses yield about 80 per cent. of copper, and the ore, in barrels, about 60 per cent.—Having this data for a guide, the 467 tons must yield to the company nearly $100,000.

Allowing that these 467 tons will give 300 tons of pure copper—a low estimate—the same would be equal to about 3600 tons of the dressed ore of the Cornish mines, or more than 7200 tons of ore as raised from those mines.

From the great richness of the copper rock, it is right to suppose that a large quantity of inferior quality has been raised, that remains at the mine. This is so, and the quantity is represented as being several thousand tons in weight. Hitherto, for want of proper machinery, this rock has not been reduced; but it is supposed that a suitable apparatus has, by this time, been erected at the mine, and that, if it should operate favorably, it will add much to the revenue of the company.

There appears now to be nothing in the way of this mine's continued successful operation. It has been already sufficiently opened, to show that sufficient productive ground is yet untouched to keep a large mining force at work for many years, and that no bounds have yet been found to the copper at any depth to which excavations have been made."

Smithsonian Institute.

The following exposition of the plan adopted for the management of this Institution, will, we doubt not, be read with interest, and therefore we give it a place in the Journal. We copy it from the Mining Journal.

From a paper read by Professor Henry before the Association of Geologists and Naturalists, at Boston, on the 25th ult., we learn that Hugh Smithson was born in England, in the year 1868. He was educated, says the learned professor, at the University of Oxford—was a man of amiable disposition, and devoted to science. He was the best chemist in Oxford, and, after his graduation, became the rival of Wollaston in minute analysis, and possessing most extraordinary skill in manipulation.

He resided most of the time abroad, and was an illigitimate son of the Duke of Northumberland, who recognized him and left him a handsome property. He was the author of upwards of twenty original memoirs, on various subjects of science. He appears to have been proud of his scientific attainments, and on one occasion wrote thus: "The blood of England flows in my veins—on my father's side I am a Northumberland—on my mother's I am related to kings. But this is of no consequence. My name shall live in the memory of mankind, when the titles of the Northumberlands and Percys are forgotten." Professor Henry said he could find no evidence that he had written this in view of the establishment of an institution.

Smithson died at Genoa, in the year 1829, leaving his property to his nephew, the son of his brother, with a clause in his will leaving it to the United States, for founding an institution for the increase and diffusion of knowledge among men, in case the nephew died without issue. He did so die, and the money, about $500,000, came into possession of our government. It was idle to say that this money was lost, when it was lent to Arkansas and other States. It could not be lost for the national government held it in trust, and having accepted the trust was bound to see it devoted to the purpose designed in the will of Smithson. Various schemes had been proposed to carry the plan into execution, but none was definitely decided upon until a year since, when an act of Congress was passed organizing the institution. Professor Henry then explained his own connection with the Smithsonian Institution, which was entirely unsolicited on his part. He mentioned the several plans which had been suggested for the organization of the institution, as well as that which had been finally adopted as a compromise. According to this,

To increase knowledge. It is proposd, 1st, to stimulate men of talent in every part of the country and of the world, to make origi-

nal researches by offering suitable rewards; and, 2d, to appropriate annually a portion of the income for particular researches, under the direction of suitable persons.

To diffuse knowledge. It is proposed, 1st, to publish a series of periodical reports on the progress of all branches of knowledge; and, 2d, to publish occasionally separate treatises on subjects of general interest.

No memoir, on subjects of physical science, to be accepted for publication, which does not form a positive addition to human knowledge, and all unverified speculation to be rejected.

Each memoir presented to the institution, to be submitted for examination to a commission of persons of reputation for learning in the branch to which the article pertains, and to be accepted for publication, only in case the report of the commission is favorable.

The report on the progress of knowledge, to be furnished by colaborators, consisting of men eminent in the different branches of knowledge. These reports to consist of three classes—physical, moral and political, literature and the fine arts.

One-half of the income of the institution is to be devoted to carrying out this plan; the other half to the increase and diffusion of knowledge, by means of collections of books and objects of nature and art.

The building, which is slowly in progress, is to be erected, in considerable part, out of the interest which will accrue upon the interest, accumulated upon the original sum since it has been in keeping of the United States.

Metals and Ores of America.

We find the following brief statement in the *American Mining Journal* of 27th October.

At the last meeting of the Association of American Geologists and Naturalists, Dr. T. C. Jackson, the president of the society, in an essay on the subject, explained the state in which the metals and ores of America are found:

Gold, nearly pure. The author explained the different methods of washing and separating the metal in the United States and Brazil, and that the greatest gold deposit in the world is in the eastern slope of the Oural mountains.

Silver, in the pure or native state, is found in many places, but more generally in combination, as with copper, lead, zinc, etc. Native silver and native copper are occasionally found in the same specimen. Such is the case with the metals as they occur in the Lake Superior copper.

Native copper occurs in the igneous rocks, as the basalt, the greenstone, amygdaloid, etc.

Tin has not yet been found in quantities which justify the attempt at working it in the United States. The only known localities are in New Hampshire.

Lead, as an ore, is next in value to copper. It is generally found in combination with sulphur, constituting the galena, or sulphuret of lead. In the western States the lead is nearly a pure sulphuret, but often containes a little silver, sometimes amounting to one-half per cent. Five to seven pounds of silver have occasionally been obtained from a ton of lead ore.

Buffalo and Mississippi Railroad.

Continued from page 710.

GRADES.

In Ohio, we have no data to show what the individual grades would be; the records of Mr. Hopkins' survey having been burnt at the time the warehouse of Mr. Richard Mott, in Toledo, was destroyed by fire. Mr. Hopkins alludes to them in his report, as follows: "From the profile and the accompanying table of grades, you will perceive the grades are very variable, but are generally light, not exceeding the ratio of 32 feet per mile, except in three cases, two of which I concluded to change from 40 to 32 feet per mile, and made my estimate accordingly. The other which occurs between the starting point in Toledo, and the crossing of the Wabash and Erie Canal cannot be materially altered, on account of the elevation necessary to carry the road over the Canal."

The length of the grade last mentioned in this quotation, extending from the commencement of the line in the city to the canal, I assume to be four-tenths of a mile, and the inclination cannot be reduced, without incurring considerable extra cost, in laying the line near Swan Creek, perhaps crossing it and passing over the Canal between Lock No. 3, and the Aqueduct over the Creek.

At the Ohio and Indiana line, the elevation of the road will be 394 feet above Lake Michigan, and about 407 feet above Lake Erie, calling the difference of level between the Lakes 13 feet. Assuming the point of departure in Toledo, to be 9 feet above Lake Erie, and the ascent of the first grade thence to the commencement of the flat country, which extends westward to the St. Joseph's, to be at the rate of 40 feet per mile for a distance of six-tenths of a mile, we get 33 feet to be deducted from the 407 feet, leaving 374 feet to be overcome by grades ascending west, in a distance of little less than 66 miles, to unite the Ohio survey with that of Indiana. Should the grade, where the road would cross the St. Joseph's, be 200 feet above Lake Erie, and the ascent over the flat country uniform; the rate of inclination, would be for this part, about 3 feet per mile: leaving 11 miles, requiring an average grade of nearly 16 feet to the mile, between the St. Joseph's and the junction with the Indiana portion of the road.

In Indiana we have the grades given in the reports, from the Ohio line to the point of divergence 12 miles west of Michigan City, all of which have been arranged anew in the following table of grades and distances, making a few slight alterations, which seemed to be required, as corrections; and to make the table accord more nearly with the profiles.

The table is made continuous from Toledo to Chicago by way of Bristol, or northern route; instead of the southern route through Goshen, a table of which follows the main table; that is, the columns of distances, lengths of grades, and amounts of ascents and descents, are made continuous by the Bristol route, westward from Elkhart village, instead of that by way of Goshen. It will be seen that both routes are continuous as far as Elkhart village, where owing to the difference in the footings, only one of the routes could be made continuous thence to Chicago, without the insertion of the same matter in the report a second time. The part of the table west of Elkhart village, *per se*, is common to both routes, and nothing in this part is affected by taking one in preference to the other, except the footings; and it is easy to change them, to apply to the Goshen route, if there should be occasion, by adding or deducting the difference found in the footings of the two routes at Elkhart village. By the comparison of these footings at the village, we are enabled to appreciate the advantages or disadvantages of either line over the other, in respect to the several items of distance, length of grades, and amounts of ascents and descents.

By the table we see that the maximum grade in Indiana will be 44.16 feet per mile, with the exception of the steep grades, on the 9th division, between Laporte and Michigan City, where we have a maximum grade of 73.45 feet per mile. On the locomotive stages, where the former grade and those approximating to it occur, engines of extra power should be provided for propelling what would be an economical load for the common engines over the more level parts of the road. On the 9th division, the heavy trains arriving at Michigan City from Chicago, must be broken up, and the parts severally conveyed by single engines to Laporte, where new trains could be made up, adapted to the grades and engines, thence to Toledo. Unless the trains are broken up at Michigan City, an assistant engine will be required at the steep grades on the 9th division, which fortunately are in contiguity, and could all be tended by one engine. The latter method of overcoming these steep grades, would be the more economical as the transit increased.

The grades beyond the diverging point 12 miles west of Michigan City, to Chicago; cannot exceed a moderate rate of inclination, and may for our present purpose be considered as a dead level.

The aggregate lengths of the ascending, descending and level grades, from the Ohio and Indiana line, west to Chicago, are shown at the foot of the table, and are as follows:—

Aggregate length of Level Grade.....	50.10 Miles.
" " Grade ascending west..	39.10 "
" " Grade descending west.	81.08 "
	170.28 "

Classing and tabulating the grades we have;

	Miles.	
For Grades under 5 feet per mile ascending west.....	7.29	.....
For Grades under 5 feet per mile descending west.....	.....	98.51
For grades between 5 and 10 feet per mile ascending west.....	25.53	.....
For Grades between 5 and 10 feet per mile descending west.....	....	24.63
For Grades between 10 and 20 feet per mile ascending west.....	13.88	.....
For Grades between 10 and 20 feet per mile descending west.....	....	16.23
For Grades between 20 and 30 feet ascending west.....	2.97	.....
For Grades between 20 and 30 feet de-		

ascending west	.....	.....	2.44
For Grades between 20 and 30 feet ascending west	8.89	.....	
For Grades between 30 and 40 feet descending	.....	.....	3.61
For Grades at 44.00 feet descending west	.....	.....	0.79
For Grades at 44.16 feet descending west	.....	.....	2.09
For Grades at 45.38 feet descending west	.....	.....	0.45
For Grades at 48.00 feet ascending west	0.61	.....	
For Grades at 73.45 feet descending west	.....	.....	2.34
Total miles of ascent in Indiana,	.....	39 10	
And descent,	.....	.....	81.08

CURVES.

The amount of curviture, within the State of Ohio, was not mentioned in Mr. Hopkins' Report, he only alluded to the very small quantity required, considering the total length of the line; and that there would be none with a radius less than 3000 feet.

In Indiana, the Engineers have reported the quantity of curviture and straight line.

Tabulating the result of the above table, we obtain as below, the aggregate length of curviture in Indiana, expressed both in miles and degrees; giving the curviture, as stated in the reports, for the south route west of Michigan City, instead of the Lake route to Chicago, where the curviture has not been ascertained by any survey.

Radius.		Degrees of Curviture,		Miles.
500 feet	there will be	90.75	equal to	0.15
1637	" "	36.96	"	0.20
2865	" "	1332.57	"	12.62
3820 / 3819	" "	209.08	"	2.64
5729	" "	323.69	"	6.13
Straight Line	"			133.77
Total degrees of curv'e		1993.05	tot'l dist. of	155.51

ADVANTAGES OF THE LINE AND ITS TRAFFIC.

In considering these subjects, it is important that a correct and satisfactory exposition should be made, to give confidence that the road would pay at the outset; and that afterwards there would be no danger of its being drawn off through other channels.

To guard against the latter occurrence, I would propose that the road should be built with extra stability, and be furnished with locomotives capable of running at high velocities. This course would do much in discouraging the opening of any other line of communication, which would directly interfere with the legitimate business of the road.

It is believed, that the road as surveyed, is as short as any practicable line, with grades as favorable, which can be found passing across the neck of the peninsula of Michigan, from the western extremity of Lake Erie to the south-east bend of Lake Michigan. Any other course north of the one adopted, I have understood would pass over a more elevated country; and would, unless terminated at the same points, be attended by the want of convenient and ample harbors at its termini.

Toledo has the natural advantage of being located at the most westerly point of Lake Erie on Maumee River, at the head of Maumee Bay, easily approached by vessels drawing above 9 feet of water. Its position is such, that vessels coming up the Canada side of the Lake, when at point Pelee, allowing they could cross the long sand spit which projects some six or eight miles into the Lake, would be at the same distance from Toledo that they would be from Detroit. If they came up the middle of the Lake to Middle Island, they would be 8 miles nearer Toledo than to Detroit: and should they coast the south shore of the lake, would be at Sandusky Point 13 to 16 miles nearer Toledo than Detroit, (using Farmer's map of Michigan for the distances.) I suppose the greater number, nearly all the steamers, pass by the latter route, for the purpose of stopping at the numerous artificial harbors, scattered along this shore, to leave and take in passengers and freights; or in case of storms to obtain a shelter; consequently the majority of the boats could make Toledo at from 25 to 30 dollars less cost than they could Detroit, and save in time 2 hours. This saving of time and exposure on the Lake, would deter many from taking the Detroit and Central Railroad route, who were bound for Chicago.

At Toledo there are two Railroads, one in operation, the other projected and partly executed, they leave in opposite directions; the Erie & Kalamazoo, the one in operation, extends in a north west direction towards the interior of Michigan as far as Adrian, 33 miles from Toledo, where it meets the Southern Railroad, now open from Monroe to Hillsdale, 68 miles in length. The Erie & Kalamazoo Railroad turns into Toledo, annually, a large quantity of wheat and other produce. In 1841, this road drew from Michigan produce to the amount of $530,000; of which, there were 127,000 bushels of wheat valued at $120,000; and 45,748 barrels of flour valued at $228,920.

The other Railroad, 31 miles long, leaves Toledo in the direction of Lower Sandusky, and is a part of the Ohio Railroad. This part was begun a few years ago and afterwards abandoned. Recently it has been purchased by * * * * * in behalf of a new company, who intend, I understand, to complete it without delay. At Lower Sandusky, it will connect with another portion of the Ohio Railroad, to be laid out to Sandusky City, and also with a short link to be inserted, connecting it with the Mad River Railroad at Tiffin.

The two divisions of the Ohio Railroad from Lower Sandusky to Sandusky City and from thence to Cleveland, where at the same time purchased by other individuals, and it is supposed both parts will be immediately undertaken.

These Railroads completed to Cleveland, it would not be long before they would be extended and united to the New York and Erie Railroad at Dunkirk, should that road terminate at that point. From thence they would be continued to Buffalo and unite with the line of Railroads to Albany and Boston; completing, in one grand trunk, a orad 1197 miles long.

The statement below, shows in comparison the lengths and the assumed practicable time of passage, of the principal Railroad and Steamboat Lines, contemplated or in operation between Galena in Illinois, and Boston and New York.

Comparative lengths and times of passage of Railroad and steamboat lines from—

	Miles.	Hours.
Galena to N. York, *via* New York and Erie Railroad	1100	52
Galena to Boston, by Railroad	1197	56
Galena to Boston, *via* Welland Canal and Ogdensburg Railroad	1278	97
Galena to Boston, *via* Upper Lakes and Buffalo and Albany Railroad	1572	133
Galena to Boston, *via* Michigan Railroad and Lake Erie	1005	76
Galena to New York, *via* Upper Lakes and New York and Erie Railroad	1184	127
Galena to Boston, *via* Upper Lakes and Welland Canal	1662	164

Lake Erie opens at Cleveland 32 days earlier on the average of 9 years, than it does at Buffalo; and much earlier than it does at Dunkirk. The Welland Canal also is generally acknowledged to be navigable two or three weeks sooner than the Erie Canal, and about as much sooner than the opening of the navigation at Buffalo and Dunkirk; these facts make it quite certain, that large quantities of wheat, flour and other products of the west, will be forwarded over the railroads and through the Welland Canal, to Lower Canada and the sea-board in the spring and fall of the year.

The Wabash and Erie Canal unites with Lake Erie at Toledo, and runs 87 miles to the eastern boundary of Indiana, thence through Indiana, *via* Fort Wayne, Logansport, and Terre Haute to Evansville, on the Ohio River.

The Miami Canal, in Ohio, connects with the Wabash and Erie, at a point about 68 miles from Toledo, and terminates at Cincinnati. These canals are now completed within the State of Ohio, and that part of the Wabash and Erie Canal, not finished, within the State of Indiana, will soon be opened under the arrangements made last winter, between the State and the Foreign Bond holders.

From Laporte, under the conditional supplementary charter, granted to the company last winter, it is proposed to run a railroad to Lafayette, on the Wabash and Erie Canal, a distance of about 85 miles; thence to be continued to the Illinois line in the direction of St. Louis, a further distance of about 40 miles, where it would probably join the projected *Northern Cross Railroad*, passing through Illinois, from Danville *via* Springfield to Quincy, on the Mississippi River, intersecting the projected great Central Railroad, at Decatur. I have understood from good authority that a number of miles of this Northern Cross Railroad was under contract during the last year.

At the Illinois line, the road would be within the limits of the great coal field of Illinois, and in the vicinity of valuable beds of iron ore and sandstone, the latter suitable for grindstones and for architectural purposes. The ore is found in Vermillion county, Indiana. The sandstone in Warren county; and borings for salt have been made

with success in Fountain county, Indiana, and near Danville in Illinois.

It is said, the country from Laporte to Lafayette is a dead flat, and that the Railroad could be made straight: the country, however, I understand, is new, and would not in its present condition furnish much traffic, being thinly settled, consequently the road must on its being opened, depend chiefly for its support, on the through business that would come from the central and lower portions of Illinois and Indiana.

At Lafayette the line would soon be joined by the Madison and Lafayette Railroad, leading from Lafayette through Indianapolis to Madison on the Ohio River, 92 miles below Cincinnati, and 417 miles above the mouth of the Ohio, this road has been commenced, and is about to be opened from Madison to Indianapolis, 50 miles being in use; the other portion from Indianapolis to Lafayette is only a projected road, but is greatly wanted for the accommodation of the numerous emigrants who traverse this part of the country, on their way towards Lake Michigan and surrounding states; for the common roads here are of the most ordinary description; at least, such I found to be the great thoroughfare from Logansport to Indianapolis on my return to the east from Michigan City, the last winter.

It is the prospective value of the line to Lafayette, or some other in a direction more westerly, in conjunction with the important local business that attaches itself to Laporte, that forbids an attempt to mend the main line here, by cutting off the obtuse angle made by laying the road through Laporte in its course to Michigan City.

Michigan City must become a very important station on the line, because of its harbor and position at the south-eastern bend of the Lake; well calculated for a point of departure for such passengers and freight as are destined for the several ports in Wisconsin Territory, and possibly for a line of communication to the northern extremity of Green Bay, and over the country to the south shore of Lake Superior. The distance from the City across the Lake to Milwaukie, is but 7 or 8 miles further than it is from St. Joseph. And taking into consideration the extra length of the Central Railroad (202 miles) over that from Toledo to Michigan City, (186 miles) passengers can be carried cheaper to Milwaukie from Toledo, than they can from Detroit, the difference in the total distance being 8 or 9 miles in favor of the city route.

It would appear, from the information I gathered while at Michigan City, that the position of that place was more favorable for the construction of a permanent and safe harbor, than any other site at the head of the Lake; for the reason that the sand and shingle composing the beach, had but little tendency to move one way more than the other; the action of the waves, during the prevailing strong winds, being nearly perpendicular to the shore, would cause an equality of action on the beach, which would not have place on either side of the Lake. On the sides, these sweeping winds cause an accumulation of sand and shingle on the northern side of the long *jetees* constructed at the harbors; and in a few years these works of art are overreached by the accumulation, and a further extension demanded to keep the harbors open. It is this balance of forces at Michigan City which Major Bowes, of the U. S. Topographical Engineers, who has charge of the government works here, assured me was greatly in favor of establishing one of the most stationary harbors at this end of the Lake.

The General Government commenced operations here in the form of surveys and estimates, about the year 1835, when an appropriation of $20,000 was granted. In 1836, Lieut. T. B. W. Stockton estimated the amount of money required to complete the harbor, at $150,000. The appropriation for the harbor improvement, as recommended, was for the present year, $40,000—more, I think, than was proposed for any other single harbor on this Lake.

In the winter season, the travel and business from the State of Michigan, destined for northern Illinois, Wisconsin and Iowa, would naturally be concentrated here, and contribute at the outset in no ordinary degree, to the business of the road hence to Chicago (50 miles). This travel would annually increase, at least, in the ratio of the increase of the population of Michigan, aided, moreover, by the annual increase of the population of Upper Canada.

Should the city be avoided by a portion of the Michigan travel, the road would necessarily intercept it somewhere west of Toledo, and increase the receipts according to the extra distance it would pass on the road. That portion of the travel bound for the middle and southern portions of Indiana and Illinois, would pass on the main road to Laporte, where it would take the Lafayette branch; provided there was no other branch leading from the main stem, to divert it into other channels: a case which cannot occur without the consent of the corporation for a period of 15 years, if the late supplementary act is accepted by the company.

The geographical position of Chicago for a city, has from its origin been set down as auspicious, with rich prairies extending to the south-west, west, and north west across the country to the Mississippi River; important as a point where many long lines of intercommunication must unavoidably converge, coming in from all points of the compass, bearing the rich products of Forests, Mines and Agriculture; and it is quite apparent at the present time, that what was prognosticated at its birth, is actually taking place. We have here the termination of the great Illinois and Michigan Canal, projected upwards of twenty years ago, but now on the eve of completion: this Canal is one of the largest class, and extends 95½ or 100 miles to the head of steamboat navigation on the Illinois River: it opens a water communication 1700 miles to the Gulf of Mexico, and completes an inland navigation of 3200 miles to the Gulf of St. Lawrence, by way of the Lakes, Canada Canals, and St. Lawrence River; and by way of the Lakes, the Erie Canal and Hudson River, to the City of New York, a distance of 3100 miles.

We have also, at Chicago, the projected Galena and Chicago Union Railroad, which is in effect but a continuation of the Buffalo and Mississippi Railroad, extending to Galena. The charter is broad in its terms, and will by the influence of the citizens of Chicago, be soon carried into effect, if operations have not been already arranged. Under a clause in the charter, permitting lateral lines to be built, it is conceded, that that part of our line which lies in Illinois, and which for the sake of simplicity has been considered as a part of the Buffalo and Mississippi Railroad, would be built. The charter to the company, grants the privilege of connecting the road with the Central Railroad in its course to Galena, should they prefer it, to a more direct route. The distance by the direct route would be 160 miles, supposing it no greater than the present stage route. If it diverges to the Central Railroad, passing by way of Dixonville, on Rock River, the distance from Chicago to Galena would be 170 miles—supposing as before, the line to be of the length of the stage road. The charter allows a capital of $2,000,000.

The appropriations by Government for improving the harbor of Chicago, have been great, and further extensive improvements, I am informed, are contemplated. Some of the early appropriations were as follows: in 1833 $25,000; in 1834 $32,801; in 1835 $32,800; and in 1836 $68,350 was demanded by the estimates, for completing the work agreeably to a plan proposed at that time, which, if carried out, would have made the cost of the work $205,561. In 1837, a further appropriation of $40,000 was granted; and in January, 1838, it was stated, all the appropriations amounted, up to that time, to $162,601.

I have added the following table of distances, counted from Chicago, to show in comparison the lengths of the various lines of communication projected or in operation, passing to or from the city. It is not to be supposed, that the distances will in every case be found exact; many of them, when no satisfactory information could be found elsewhere, have been ascertained by measurements made on maps, calling 69.45 miles the length of a degree of latitude in the neighborhood of the Lakes. For instance, the distance from Chicago to Buffalo by way of the Lakes, was ascertained in this way, by measuring the route on Mitchell's great map of the United States, published in 1834.

The routes in some instances are made to retrograde for the purpose of completing circuits, and to allow distances to be ascertained in opposite directions at any point in a circuit.

The table next following that of the distances, contains the General Statistics along the Railroad Line, from Chicago to the Ohio Line, and will be referred to as occasion requires.

To be Continued.

NOTICE TO CONTRACTORS.—GREAT WESTERN RAILWAY, CANADA WEST. Sealed proposals will be received until the 1st day of next October, at the Office of the Great Western Railway Company, for the Grading and Masonry of the Western Division, extending from London to Windsor, a distance of one hundred and ten miles; also for the branch to Port Sarnia, forty-five miles in length.

Plans and Specifications of the work can be examined at the Engineers' Office, in Hamilton and London, on and after the 15th of September.

C. B. STUART, Engineer.

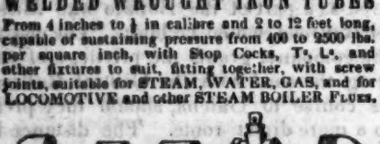
Hamilton, July 30, 1847. 2m32

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now making Railroad Bars, and are prepared to execute orders for any required pattern. Apply to

FULLER & BROWN, Agents,

No. 139 Greenwich, corner of Cedar street.

June 1, 1847. 10tf

PENNSYLVANIA RAILROAD COMPANY Notice to Contractors.—Proposals will be received until FRIDAY, the 26th day of November, at 10 o'clock A. M., at the Town Hall, in the Borough of Lewistown, for the grading and masonry upon about 40 miles of the Pennsylvania Railroad, extending west from section 20 to near Lewistown.

Plans and specifications of the work can be seen at the above named place for five days previous to the time appointed for receiving bids.

Any further information can be had upon application to WM. B. FOSTER, Jr., Esq., Associate Engineer at Harrisburg. S. V. MERRICK,

3t44 President.

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,

57 THREADNEEDLE STREET, LONDON.

13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS

FOR

PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

July 31—3m ROBERT GRACIE.

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,

Willow Street Wharf,

4tr Philadelphia, Pa.

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer,*

Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co Boston. ja45

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

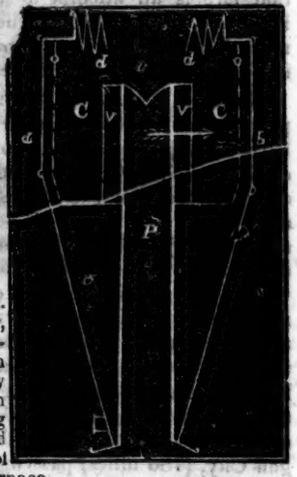
Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,

a45 Paterson, N. J., or 60 Wall street, N. York.

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.



Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

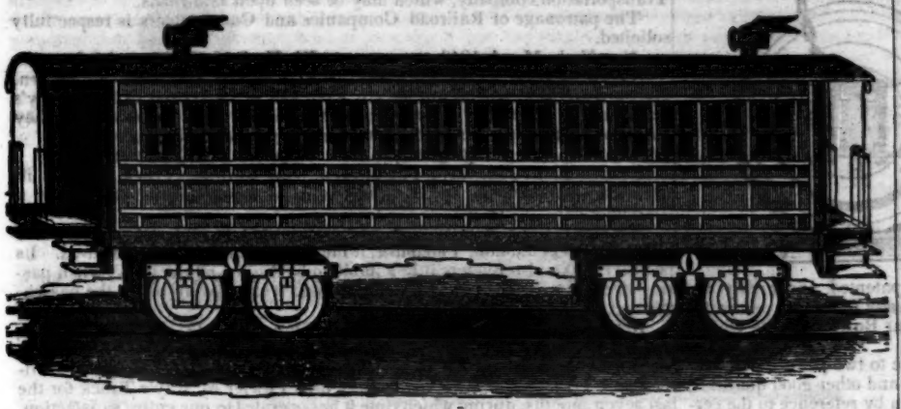
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE HERRON RAILWAY TRACK,

As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails, which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

4,224 Timbers, 11 ft. long, 3 x 6 inches = 68,696 ft. b.m., at $10 =	$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. = 4,403 ft. b.m., at $13 =	57 24
13,000 Spikes = 2,250 lbs. at 4½ cts	101 25
Workmanship free of patent charge	600 00
Cost of one mile including the laying of the Rail	$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia. 33tf

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
1y25 28 Platt street, New York.

RAILROAD IRON.
MOUNT SAVAGE IRON WORKS

THIS Company are prepared to execute orders for RAILROAD IRON, of any pattern, and equal in point of quality to any other manufactured.

Address J. M. HOWE,
Pres't. Mt. Savage Iron Works,
Dec. 25, 1y* Maryland.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

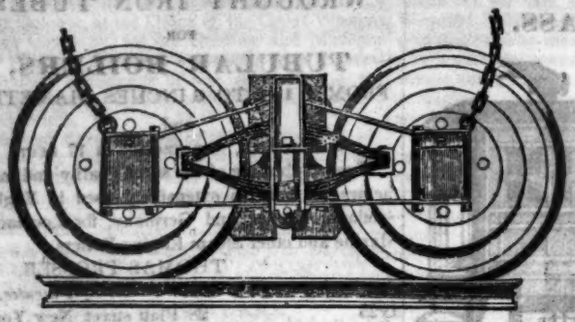
RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
1y48 77 Pine St., New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
143 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 33 1y

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use.

[Signed,] T. L. SMITH,
Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2¾	5	2	6½	9	4	13½	1-2	7½
16	2¼	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y35 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee
G. A. NICOLLS,
ja45 *Reading, Pa.*

THE SUBSCRIBERS, AGENTS FOR the sale of Codorus, Glendon, Spring Mill and Valley, } Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
p45 N. E. cor. 12th and Market sts., Philad., Pa.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

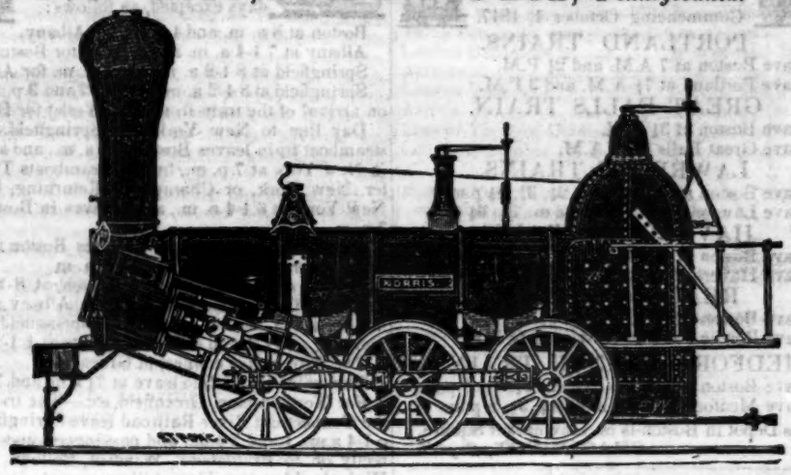
MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

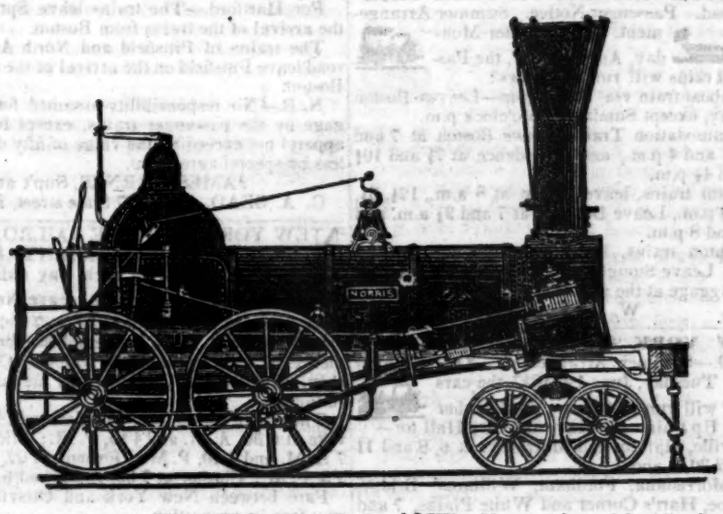
THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip,
ly10 New York.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter of	Cylinder,	× 20	inches	Stroke.
"	2,	14	"	"	"	× 24	"	"
"	3,	14½	"	"	"	× 20	"	"
"	4,	12½	"	"	"	× 20	"	"
"	5,	11½	"	"	"	× 20	"	"
"	6,	10½	"	"	"	× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 1nos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. & Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. & Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above Pipes, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly *indestructible*. The prices are less than those of iron or lead. We also manufacture Basons and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

28tf J. BALL & CO.

CONNECTION BETWEEN THE BOSTON and Lowell and the Boston and Maine Railroads. On and after April 1st, 1847, passenger trains between these two roads, will run as follows, viz:

Leaving Lowell at 7, 11 1-4 a.m., and 2 1-2, 4 1-2, and 6 1-2 p.m., to connect at the junction in Wilmington with the eastward trains—at 7 a.m. and 2 1-2 p.m. with those to Portland; at 4 1-2 p.m. to Great Falls only, with a detention of 45 minutes at the junction, and at 11 1-4 a.m. and 6 1-2 p.m. to Haverhill only. Leaving the junction in Wilmington, for Lowell, at about 7 1-4 a.m. on arrival of the morning train from Haverhill; at about 9 a.m., on arrival of the morning trains from Great Falls. At about 11 3-4 a.m., on arrival of the morning train from Portland. At about 5 p.m. on arrival of the afternoon trains from Haverhill. At about 7 1-4 p. m. on arrival of the afternoon train from Portland.

WALDO HIGGINSON, Agent

PATERSON RAILROAD

Summer Arrangement.

Commencing April 20th, 1847, the cars will leave

Paterson at	New York at
8 o'clock a.m.	9½ o'clock a.m.
11½ o'clock a.m	12 1-4 o'clock p.m.
4 o'clock p.m.	5½ o'clock p.m.
On Sunday.	
8 o'clock a.m.	9½ o'clock a.m.
4 o'clock p.m.	5½ o'clock p.m.

25tf Office 75 Courtlandt St.

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quantties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

6tf DAVID S. IVES, Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

WINTER ARRANGEMENT, Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6 50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.

1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m.—Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c., to White Plains 50c. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily. Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller. New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to

1y14 STOCTON & FALLS, Agents.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.
From Springfield to Bellefontaine by stage, over a good Summer road.....33 "
From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf ..... W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m.	and 3½ p.m.
Arrives at	9 a.m.	and 6½ p.m.
Leaves York at	5 a.m.	and 3 p.m.
Arrives at	12½ p.m.	and 8 p.m.
Leaves York for Columbia at	1½ p.m.	and 8 a.m.
Leaves Columbia for York at	8 a.m.	and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 60

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

NEW YORK AND PHILADELPHIA RAILROAD line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2 25 and	1 90
" Pottsville "	34	1 40 and	1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12½ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—33 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper. Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 40	0 65
	Cotton, per 100 lbs.	0 45	0 75
	Molasses, per hogshead.	8 50	13 50
	" " barrel	2 50	4 25
	Salt per bushel	0 18	
	Salt per Liverpool sack.	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., *July* 15, 1847. 44-1y

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

Between Macon	and Decatur and immediate points.	0 22½	1 54	1 05	0 81 0 86
	and Knoxville & intermediate points	0 22½	1 54	1 10	0 76 0 80
	and Chattanooga.				0 61 0 65
Between Augusta	and Decatur and intermediate points.	90 24	1 70	1 15	0 85 0 90
	and Knoxville & intermediate points.	90 24	1 70	1 20	0 80 0 85
	and Chattanooga				0 65 0 70
Between Charleston or Savannah	and Decatur and intermediate points.	90 32	2 20	1 35	1 05 1 10
	and Knoxville & intermediate points.	90 32	2 20	1 40	1 00 1 05
	and Chattanooga.				80 85

1st class.—Boxes of Hats, Bonnets and Furniture per foot.....
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Scythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs.....
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks, or Crates of Crockery, Hardware, and other heavy articles not enumerated below.....
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.....
Per 100 lbs.....
Cotton.

Merchandize shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.
Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot	$0 20
Second class, per 100 lbs.	1 20
Cotton, per 100 lbs.	0 55
Third class, per 100 lbs.	0 60
Fourth class, per 100 lbs.	0 50

FRANKLIN HOUSE,

No. 105 Chestnut Street, Philadelphia.

The undersigned takes the liberty of calling the attention of the readers of the Journal to the fact that the *Office* is removed from New York to the FRANKLIN HOUSE, *Philadelphia*, where he will be always pleased to *meet* and *greet* them. They will not only find a pleasant *Reading Room*, with lots of *foreign* periodicals, treating of *Railroads* and *Machinery*, but they will always find *good-sized* and *airy* rooms—*clean beds*—and a *well supplied* table. If they would have further proof of this, they have only to call, and judge for themselves, and much oblige the proprietor,

D. K. MINOR.

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This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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